

Curriculum vitae : Karl Otto Greulich

Born 19.Dez.1946 in Heidelberg, Germany. School until 1966. Military service until September 1967 married two sons

1967 -1973 Study of physics, chemistry and mathematics, University of Heidelberg. Diploma work "Drift- time curves and drift time distributions in multi wire drift chambers "

1. Physical Inst. Univ. Heidelberg Supervisors: J.Heintze and V.Soergel (later head of the German electron synchrotron, DESY)

1973 -1976 Ph D work on "High Pressure Enzyme Kinetics of Dextranucrase, supervisor H.Ludwig Inst. Applied Physical Chemistry , University of Heidelberg , Head: Klaus Ebert

1976 -1979 (with H.Ludwig) Studies on the kinetics of glycolytic enz Vvjymes

1980-1982 Europ. Molecular Biology Laboratory (EMBL): Thermodynamic und fluorescence spectroscopic investigations on structural transitions (with D.A. Marvin) and on (gene 5-) protein DNA - interactions (with R.W.Wijnaendts van Resandt) in the filamentous bacteriophage Pf1.

1982-1983 Weizmann Institute of Science, Rehovot, Israel : Time resolved fluorescence studies (with E.Haas)on the electrostatic interaction of the protamin thynnine with DNA. Small angle X-ray scattering experiments (with H.Eisenberg)on nucleosomes and on the salt induced transition of chromatin from the low (LOS) to the high order structure (HOS).

1984-1992 Univ. Heidelberg: Head of an interdisciplinary group working on lasers in biology at the Phys. Chem. Inst. (with J.Wolfrum). Fluorescence - and Raman - spectroscopic studies on peptides and protein folding, interactions in hnRNP (ribonucleoprotein-) complexes and on the formation of nucleic acid triple helices. First use of optical tweezers outside the US and worldwide first combination with a laser microbeam for complete micromanipulation of individual particles and molecules by light. Laser induced gene transfer into plant cells and chloroplasts, laser induced cell fusion, laser microdissection and microcloning for molecular genetic studies.

August 1988 Organisation of the "Bunsentagung" on "Laser in Life Sciences" in Heidelberg (with J.Wolfrum, K.C.Holmes, T.Jovin, E.W.Schlag).

Co-editor of issue 93.3 (1989) of the "Berichte der Bunsengesellschaft" on this subject.

Nov. 1989 Habilitation (Faculty of chemistry , University of Heidelberg on: "Temporal and spatial high resolution methods for spectroscopy and micromanipulation of organic materials".

Apr. 1990 Associate professor (C2) for Biophysical Chemistry at the faculty of chemistry, Univ.Heidelberg

Nov 1992 Inst. molec. Biotech., Jena: Head of department "Single Cell and Single Molecule Techniques".

Jul. 1993 also: Professor of Biophysics , Friedrich Schiller University Jena.

Jul. 1993 Organisation of a BMFT expert-meeting on research at the frontier between physics and biology.

1994-1995 Scientific supervisor for the production of a film on laser- microtechniques by IWF Göttingen.

Okt.1995 Award for the best research film at the " International Film Festival" in Rond Spain.

1994-now Development of techniques for observation and manipulation of single molecule reactions and of a combination of single cell gel electrophoresis with fluorescence in situ hybridisation (COMET-FISH)

Jun. 1996 Co-editor of a special issue of the journal "Experimental Technique of Physics" on " Single Molecule Detection".

Sept.1996 Organisation of the 6.th International Meeting on Laser Applications in Life Science (LALS 96) with K.H.Feller, Jena and C. von Borczyskowski, Chemnitz.

Jan 1999 Publication of a single author book on " Micromanipulation by light in biology and medicine: The laser microbeam and optical tweezers Birkhäuser Basel Wien Boston

Jul 2004 Altenberg.B., Greulich K.O., "Genes of glycolysis are ubiquitously overexpressed in 24 cancer classes", Genomics (2004), 84 (6): 1014.20 or available online at www.sciencedirect.com

2006 Brigitte Altenberg, Christine Gemuend and Karl Otto Greulich
"Ubiquitous cancer genes: Multipurpose molecules for protein micro-arrays." PROTEOMICS (2006), 6(1): 67-71

Aug 2007 Editor (together with M. W, Berns, Irvine California) of the book "Laser manipulation of cells and tissues" in the series "Methods in cell biology, Elvsvier./Academic press, San Diego